

DoD-GEIS Rift Valley Fever Monitoring and Prediction System as a Tool for Defense and US Diplomacy

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Over the last 10 years the Armed Forces Health Surveillance Center's Global Emerging Infections Surveillance and Response System (GEIS) partnering with NASA'S Goddard Space Flight Center and USDA's USDA-Center for Medical, Agricultural & Veterinary Entomology established and have operated the Rift Valley fever Monitoring and Prediction System to monitor, predict and assess the risk of Rift Valley fever outbreaks and other vector-borne diseases over Africa and the Middle East. This system is built on legacy DoD basic research conducted by Walter Reed Army Institute of Research overseas laboratory (US Army Medical Research Unit-Kenya) and the operational satellite environmental monitoring by NASA GSFC. Over the last 10 years of operation the system has predicted outbreaks of Rift Valley fever in the Horn of Africa, Sudan, South Africa and Mauritania. The ability to predict an outbreak several months before it occurs provides early warning to protect deployed forces, enhance public health in concerned countries and is a valuable tool used by the State Department in US Diplomacy. At the international level the system has been used by the Food and Agricultural Organization (FAO) and the World Health Organization (WHO) to support their monitoring, surveillance and response programs in the livestock sector and human health. This project is a successful testament of leveraging resources of different federal agencies to achieve objectives of force health protection, health and diplomacy.